AMENDMENTS TO THE CLAIMS:

1. (Currently amended) A wavelength division multiplexing optical transmission method wherein n (n: 4 or a larger integer) ~~pieces of signal lights can~~ input signal light channels are connected to be transmitted, said method comprising ~~the steps of~~:

grouping transmittable n (n: 4 or a larger integer) ~~pieces of signal lights by~~ input signal light channels into groups each having x ~~pieces~~ channels (x: integer, $2 \leq x < n$); and

for each group, whenever one or more of said x input channels does not currently include an input signal to be transmitted in said channel, transmitting a control light having ~~the~~ a same power level as ~~the~~ a total power of signal lights ~~not transmitted in the group in case the number of transmitted signal lights in the group is smaller than x~~ of said one or more missing input signals.

2. (Currently amended) A wavelength division multiplexing optical transmission method according to Claim 1, wherein:

in case the number of currently-transmitted signal lights in one group is smaller than x, the total level of the currently-transmitted signal lights and the control light is equal to ~~the~~ a total possible level of transmittable x pieces of signal lights in the group.

3. (Currently amended) A wavelength division multiplexing optical transmission method according to Claim 1, wherein:

an optical transmission line on which ~~a~~ said signal light and ~~a~~ said control light are propagated is preset so that ~~the~~ a wavelength characteristic of said optical transmission line is flat as would be in a case that light acquired by multiplexing n pieces of signal lights is

propagated.

4. (Currently amended) A wavelength division multiplexing optical transmission method according to Claim 1, wherein:

a control light to be transmitted in each group has ~~the~~ a same wavelength as that of a signal light last transmitted in the ~~corresponding~~ group if an input light signal were received in an input channel corresponding to said wavelength.

5. (Currently amended) A wavelength division multiplexing optical transmission method according to Claim 1, wherein:

the control light ~~is~~ comprises a continuous wave (CW) light.

6. (Currently amended) A wavelength division multiplexing optical transmission method wherein there are n (n: 4 or a larger integer) input channels so that n pieces of signal lights can be transmitted if input light signals are present on each of said n input channels, said method comprising ~~the steps of~~ :

grouping said transmittable n (n: 4 or a larger integer) pieces of signal lights ~~by~~ into groups each having x pieces (x: integer, $2 \leq x < n$); and

in each said group, means for transmitting a control light having ~~the~~ a same power as ~~the~~ a total power of signal lights that have not been received as input light signals to be transmitted in the group ~~and having the same wavelength as that of a signal light last transmitted in the group in case the number of transmitted signal lights in the group is smaller than x~~.

7. (Currently amended) A wavelength division multiplexing optical transmission system wherein n (n: 4 or a larger integer) ~~pieces~~ channels of signal lights can be transmitted, said system comprising:

~~one or more~~ n signal light transmitters that can respectively receive an input signal and transmit a signal light as an input light signal to be transmitted, wherein said n signal light transmitters are classified into groups, each said group comprised of x of said signal light transmitters;

a plurality of first optical multiplexers, each said first optical multiplexer provided with x (x: integer, $2 \leq x < n$) ~~pieces~~ channels of signal light input ports from one of said groups, each said channel connected to an output of one of said n signal light transmitters;

an optical branching device associated with each said first optical multiplexer that branches light output from the first optical multiplexer;

a control light transmitter associated with each said first optical multiplexer that transmits a control light based upon ~~the~~ a level of the branched light from the optical branching device, a wavelength of said control light corresponding to a wavelength of one of said x channels;

a second optical multiplexer that multiplexes light output from the first optical multiplexers ~~and the control light~~;

an optical transmission line on which multiplexed light output from the second optical multiplexer is propagated;

an optical demultiplexer that demultiplexes the light transmitted via the optical transmission line into signal lights of respective different wavelengths; and

n optical receivers that receive the signal lights demultiplexed by the optical demultiplexer.

8. (Currently amended) A wavelength division multiplexing optical transmission system according to Claim 7, wherein:

the control light transmitter outputs a control light of power equivalent to ~~difference between the following levels in case the level of branched light from the branching device is lower than the~~ provide a total power level that would be present if all of said x ~~pieces of~~ channels had signal lights therein.

9. (Currently amended) A wavelength division multiplexing optical transmission system according to Claim 7, wherein:

a control light has ~~the~~ a same wavelength as that of a signal light last transmitted from said x ~~pieces~~ channels of signal light transmitters corresponding to the control light transmitter.

10. (Currently amended) A wavelength division multiplexing optical transmission system according to Claim 7, wherein:

the optical transmission line is regulated so that ~~the~~ a wavelength characteristic on said optical transmission line is flat in a case in which multiplexed light acquired by multiplexing n ~~pieces~~ channels of signal lights is propagated.

11. (Currently amended) A wavelength division multiplexing optical transmission system according to Claim 7, wherein:

multiplexed light output from the second optical multiplexer has a level at which ~~the~~ a wavelength characteristic on said optical transmission line is flat ~~on the optical transmission line~~.

12. (Currently amended) A wavelength division multiplexing optical transmission system wherein n (n: 4 or a larger integer) pieces of signal lights can be transmitted, said system comprising:

one or more input signal light transmitters that can respectively transmit a signal light;

a first optical multiplexer provided with x (x: integer, $2 \leq x < n$) pieces of signal light input ports connected respectively to outputs of x of said one or more input signal light transmitters;

an optical branching device that branches light output from the first optical multiplexer;

a control light transmitter that transmits a control light based upon the level of branched light from the optical branching device;

a second optical multiplexer that multiplexes the light output from the first optical multiplexer and the control light;

an optical transmission line on which multiplexed light output from the second optical multiplexer is propagated;

an optical demultiplexer that demultiplexes the light transmitted via the optical transmission line into signal lights of respective different wavelengths; and

optical receivers that receive signal lights demultiplexed by the optical demultiplexer, wherein:

the control light transmitter outputs a control light having power equivalent to a difference between ~~the following levels in case the~~ a current level of branched light from the branching device ~~is lower than the total level of~~ and a level of branched light from the branching device when all x ~~pieces of~~ signal ~~lights;~~ lights are present, and

a said control light has ~~the~~ a same wavelength as that of a signal light last transmitted from x pieces of signal light transmitters corresponding to the control light transmitter.

13. (New) The method of claim 6, wherein, for each said group, said control light has a wavelength of an input channel that is last transmitted in said group.

14. (New) A method of optically transmitting *n* channels on a transmission line in a wavelength division multiplexing optical transmission system, *n* being an integer equal to or greater than 4, said method comprising:

determining whether any of said *n* channels does not currently carry an optical signal; and

compensating for said channels not currently carrying an optical signal by inserting at least one control light signal to be transmitted on said transmission line, wherein said at least one control light signal has a wavelength of one of said *n* channels.

15. (New) The method of claim 14, wherein said transmission line has been balanced to have a flat frequency characteristic when all of said *n* channels has an optical signal being

transmitted therein, said at least one control light signal thereby maintaining said flat frequency characteristic even when one or more of said *n* channels have no optical signal currently being transmitted.

16. (New) The method of claim 14, further comprising:

separating said *n* channels into a plurality of groups of channels, each said group having *x* channels; and

providing a control light signal for each said group of channels to compensate for missing channel data in any of said channels in said group.

17. (New) An apparatus for wavelength division multiplexing optical transmission, said apparatus comprising:

n input signal ports, each associated with an input signal at a pre-set wavelength, *n* being an integer equal to or greater than 4, said *n* ports being separated into a plurality of groups, each said group having *x* channels respectively associated with *x* of said *n* input signal ports;

wherein, for each said group:

a first multiplexer receiving said *x* channels of said group and providing a multiplexed optical signal as an output thereof;

a control circuit branches off light in said multiplexed optical signal, measures said branched light, and provides a control light level signal; and

a control light generator generates a control light that compensates for any of said *x* channels that currently have no optical signal therein; and

a second multiplexer receiving an output of said first multiplexers of each said group and provides therefrom a multiplexed optical signal of said *n* channels for an optical transmission line.

18. (New) The apparatus of claim 17, wherein said optical transmission line has been balanced in a wavelength characteristic that is flat when all said *n* channels have an optical signal currently being transmitted.

19. (New) The apparatus of claim 18, wherein a wavelength of each said control light corresponds to a wavelength of one of said *n* channels.

20. (New) The apparatus of claim 19, wherein said wavelength of each said control light has been pre-set within each said group.